What is claimed is:

1. A method of altering the metabolism of sphingolipids in a cell comprising contacting the cell with a purified fumonisin, or an analog thereof.

2. The method of Claim 1, wherein the alteration is effected by binding sphingosine-N-acyltransferase with the fumonisin, or an analog thereof.

3. The method of Claim 1, wherein the alteration is effected by binding ceramide synthase with the fumonisin, or an analog thereof.

4. The method of Claim 1, wherein the analog has a hydroxyl group at the first carbon.

5. The method of Claim 1, wherein the analog has a 2-aminopenta-3,5-diol head group.

6. The method of Claim 1, wherein the fumonisin is Fumonisin B_1.

7. The method of Claim 1, wherein the fumonisin is Fumonisin B_2.

8. The method of Claim 1, wherein the fumonisin analog is AAL toxin.

9. A method of treating an abnormal condition in a subject associated with an alteration in sphingolipid metabolism comprising administering a fumonisin, or an analog thereof, to the subject in a metabolism altering amount.

10. The method of Claim 9, wherein the subject is a human and the abnormal condition is caused by an excess of sphingosine.

11. The method of Claim 10, wherein the abnormal condition is selected from the group consisting of Neimann-Picks syndrome, Tay-Sachs disease, a neoplastic condition and toxicity.

12. The method of Claim 9, wherein the amount of fumonisin, or an analog thereof, which is administered is between 5 and 500 mg.

13. The method of Claim 9, wherein the amount of fumonisin, or an analog thereof, which is administered is between 25 and 75 mg.

14. The method of Claim 9, wherein the analog has a hydroxyl group at the first carbon.

15. The method of Claim 9, wherein the analog has a 2-amino-3,5-diol head group.

16. The method of Claim 9, wherein the fumonisin is Fumonisin B_1.

17. The method of Claim 9, wherein the fumonisin is Fumonisin B_2.

18. The method of Claim 9, wherein the fumonisin analog is AAL toxin.

~~19. A composition comprising a fumonisin, or an analog thereof, in the form of a racemic mixture or a single isomer in a pharmaceutically acceptable carrier.~~

~~20. The composition of Claim 19, wherein the fumonisin,~~ or an analog thereof, is present in an amount between 5 and 500 mg.

21. The composition of Claim 19, wherein the fumonisin, or an analog thereof, is present in an amount between 25 and 75 mg.

22. The composition of Claim 19, wherein the analog has a hydroxyl group at the first carbon.

23. The composition of Claim 19, wherein the analog has a 2-amino-3,5-diol head group.

24. The composition of Claim 19, wherein the fumonisin is Fumonisin B_1.

25. The composition of Claim 19, wherein the fumonisin is Fumonisin B_2.

26. The composition of Claim 19, wherein the fumonisin ~~analog is AAL toxin.~~

27. A method of treating an abnormal condition in a subject associated with the ingestion of a fumonisin, or an analog thereof, which results in the depletion of a sphingolipid in the subject, comprising adding an amount of the sphingolipid to the subject sufficient to treat the condition.

28. The method of Claim 27, wherein the sphingolipid is sphingosine.

29. A method of treating an abnormal condition in a subject associated with the ingestion of a fumonisin, or an analog thereof, which results in the accumulation of a sphingolipid comprising adding an amount of an inhibitor

of the sphingolipid to the subject sufficient to treat the condition.

30. The method of Claim 29, wherein the sphingolipid is sphinganine.

~~31. A method of detecting the consumption of a fumonisin,~~ or an analog thereof, in a subject comprising (1) detecting, in a sample from the subject, the state of the metabolic pathway of sphingolipids and (2) comparing the state of the metabolic pathway to that of a normal subject, the presence of a change in the state of the metabolic pathway indicating the consumption of a fumonisin or fumonisin analog.

32. The method of Claim 31, wherein the change in the metabolic pathway is an increase in sphinganine.

33. The method of Claim 31, wherein the change in the biosynthetic pathway is a decrease in ceramide.

34. A method of detecting the presence of a fumonisin, or an analog thereof, contamination in a sample from a food or feed comprising detecting a reaction of the metabolic pathway of sphingolipids, the presence of the reaction indicating the presence of a fumonisin or fumonisin analog contamination.

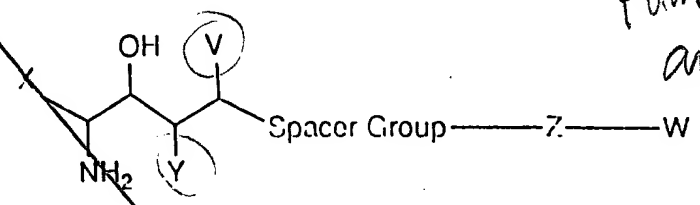
35. The method of Claim 34, wherein the reaction is the prevention of the conversion of sphinganine or an analog thereof to dihydroceramide or an analog thereof by ceramide synthase.

36. The method of Claim 34, wherein the reaction is the conversion of sphingosine to ceramide or an analog thereof ~~by sphingosine-N-acyltransferase.~~

37. A method of diagnosing an abnormal condition in a subject associated with an alteration in sphingolipid metabolism comprising detecting the state of the metabolic pathway of sphingolipids in a subject and comparing the state of the metabolic pathway to that of a normal subject, the presence of a change in the state of the metabolic pathway indicating the presence of an abnormal condition.

38. The method of Claim 37, wherein the state of the pathway is an increase in sphinganine and the abnormal condition is esophageal cancer.

~~39. A compound in the form of a racemic mixture or a~~ single isomer having the formula:



wherein the Spacer Group is selected from the group consisting of alkyl (straight chain or branched, C_1 - C_{20}), hydroxyalkyl (straight chain or branched, C_1 - C_{20}) and dihydroxyalkl (straight chain or branched, C_1 - C_{20}); Z is selected from the group consisting of H, O, NH, NQ, NQC(O), NHC(O), CO_2, C(O)NH, and C(O)NQ, wherein Q is an alkyl (straight chain or branched, C_1 - C_6); W is selected from the group consisting of no substituent, H, alkyl (straight chain or branched, C_1 - C_6), aryl (phenyl, substituted phenyl such as substitution with alkyl (straight chain or branched, C_1 - C_6) or halo), $C(O)(CH_2)_nCO_2H$ (where n = 1 - 6), $C(O)(CH_2)_nCW'_2CO_2H$, where W' is selected independently from H, alkyl (straight chain or branched, C_1 - C_6), aryl (phenyl, substituted phenyl such as substitution with alkyl (straight chain or branched, C_1 - C_6) or halo), and $(CH_2)_nCO_2H$, wherein n = 1 - 6; X is

~~selected from the group consisting of H, methyl, CH_2OH~~ (and esters thereof), $CH_2NQ'_2$ (where Q' is selected independently from H, alkyl (straight chain or branched, C_1 - C_{20}), and acyl (C(O)Q" where Q" is an alkyl, straight chain or branched, C_1 - C_{20})); and V and Y are independently selected from the group consisting of H and OH (and esters thereof), but not fumonisin B_1, fumonisin B_2, fumonisin B_3, fumonisin B_4 or AAL toxin.

40. The compound of Claim 39, wherein the compound is nonnaturally occurring.

~~41.~~ The compound of Claim 39, wherein the Spacer Group contains 1-6 carbons.

42. The compound of Claim 39, wherein the Spacer Group contains 7-13 carbons.

~~43.~~ The compound of Claim 39, wherein the Spacer Group contains 14-20 carbons.

44. The compound of Claim 39, wherein the Spacer Group is a straight or branched chain alkyl group.

~~45.~~ The compound of Claim 39, wherein the Spacer Group is a straight or branched chain monohydroxyalkyl group.

~~46.~~ The compound of Claim 39, wherein the Spacer Group is ~~a straight or branched chain dihydroxyalkyl group.~~

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